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Miss Colwell

BUREAU OF ENTOMOLOGY  
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# Western Forest Insect News

(Not For Publication)

An Informal Letter  
of  
U.S. DEPARTMENT OF AGRICULTURE  
BUREAU OF ENTOMOLOGY  
Forest Insect Investigations

Room 423 Jordan Hall, Stanford University, Calif., Oct. 1, 1927

FOREWORD

Another field season has passed, and the time has come to record some of the results determined. Many fragmentary bits of information, possibly unimportant standing alone, but probably very important when joined to other similar fragments of knowledge, will be lost unless they are promptly recorded.

As has been said before, the main object of "Western Forest Insect News" is to serve as an informal medium of record for any and all information relating to forest insects and their relations to the forest. We are particularly interested in western forest insects, but we draw no color line. We shall be glad to hear from the east, north or south, the orient or the occident, the antipodes or hades. All we require is that the contributions be on insects related to trees, and that not too many trees be wasted in presenting them.

Remember, too, that any information you pass along does not make you any poorer and may quite possibly make many others richer. H.E.B.

## SELECTIVE THINNING STUDY STARTED ON THE MODOC

During September Mr. Person, working with Albert Wagner and George Struble, laid out two important sample plots in the Lava Beds section of the Modoc National Forest. Duncan Dunning of the California Experiment Station was on the ground to help in the selection of these plots, which will be carried on as a cooperative study with the Experiment Station. The Timber Mountain plot is one of special interest. The 1927 beetle loss on this area averaged 1500 trees per section. The sample plot covers 40 acres. All trees were tagged and measured, increment cores and crown characteristics taken. On 20 acres of the plot a sample marking was made with the idea of removing the more susceptible trees. Supervisor Lyons made arrangements with a local sawmill to log this twenty according to the selective marking; the other twenty acres of the plot will be left as a check. This experiment will give a start, although on a rather small scale, on the feasibility of bringing about an immediate reduction of beetle losses through selective thinning.

Another plot of 40 acres was established on the Badger Spring Unit, where losses are not so heavy but are more typical of the epidemic conditions on the Modoc. This was marked in the same manner, but no selective thinning operations were planned.

Supervisor Lyons is also making arrangements for a local timber sale in a heavily-infested area on the Modoc, where the entomological factor will be given primary consideration in the method of marking.

## DENDROCTONUS MONTICOLAE ATTACK SUCCESSFULLY REPELLED

Success in the line of preventing attacks by the mountain pine beetle on sugar pine and lodgepole pine appear to be near realization if experiments conducted during the past season do not fail in further tests. However, this desired end is not gained without killing the trees treated, although the wood of the tree is not impaired.

The method consists of injecting into the trees a sufficient amount of sodium arsenate in solution to quickly kill the tree treated. During the tests with this method a number of both sugar pine and lodgepole pine were treated during the attack period of the mountain pine beetle. Not one of the treated trees was attacked by this beetle or any other forest insects that attack these species in the southern Oregon region where the tests were made.

So far blue stain has not developed in the treated trees. This would indicate that the method may have practical application in logging practice, in that it would result in pre-seasoning before felling. The chances of blue-staining are greatly obviated by preventing beetle attacks, since the two are closely associated.

The method should be equally successful in preventing attacks on yellow pine by the western pine beetle.

J.E.P.

FOREST ENTOMOLOGY AT THE OREGON AGRICULTURAL COLLEGE

An introductory course in Forest Entomology is now required of all students taking Forestry and Logging Engineering, this subject having heretofore been optional. The scope of the required introductory course, which is given in the fall term, may be of interest to the readers of Forest Insect News. It is called "Principles of Forest Entomology" and three credits are allowed for its successful completion.

The following outline gives a good idea of the course:

Insects; what they are--how they work

Place in the animal kingdom )  
External structure ) 2 to 3 hours  
Development and how they live )

Economic Importance

Forest insect losses )  
Principal groups involved ) 3 to 5 hours  
Where the losses fall )

Forest Insect Control; special problems  
involved in treating forest pests

Barkbeetle problems )  
Wood borer " ) 12 to 15 hours  
Defoliator " )  
with methods of control )

Insects injurious to crude and )  
manufactured wood products and ) 4 hours  
methods of preventing losses )

Brief discussion of the prin- )  
cipal western forest insects, )  
illustrated examples and exam- )  
ples of their work. About 25 ) 12 to 15 hours  
typical examples will be sel- )  
ected to illustrate all types )  
of damage )

Three other regular courses (11 credits) in Forest Entomology, beside up to 15 credits in Forest Insect Problems, are offered to students wishing to specialize.

The fall enrollment in the introductory course consists of 23 juniors and seniors.

W.J. Chamberlin.

## JEFFREY PINE BEETLE EPIDEMIC SUBSIDES ON INYO WINDFALL AREAS

The barkbeetle epidemics which followed the windfall of February, 1923, on the east side of the Sierras have apparently run their course and subsided. A brief descriptions of the conditions that followed this windstorm is given in the October 1926 issue of this paper. In 1924 a sudden flareup of Ips oregoni infestation in standing trees on the windfall area was followed by an equally sudden disappearance of this insect in 1925. In the fall of that year the Jeffrey pine beetle began to cause considerable loss in standing timber. This latter barkbeetle reached the height of its epidemic condition in 1926, the fourth season following the windstorm, when the seasonal loss exceeded 100 trees per section over most of the Jeffrey pine stand.

A recruise of the check section, marked out in October 1926 by Boothe, Simpson, Wey and McMurphy of the Inyo, was recruised in September 1927. On this section the 1926 loss amounted to 104 trees, but only four trees attacked during 1927 were found in the last examination. The decline in 1927 was not so marked throughout the region as on the check section, but the average drop will be at least 75 per cent.

This ultimate outcome has been expected, as it was not considered that a barkbeetle epidemic, which develops in weakened and wind-thrown trees, could maintain itself long in growing timber. The series of dry seasons, starting in 1924, undoubtedly helped to prolong the insect damage, as the standing trees in 1925 and 1926 were in very poor condition to resist the attack of beetles that emerged from the wind-thrown logs. The tree growth in 1927 is apparently the best of any season since 1923, and this was undoubtedly a big factor in breaking up the epidemic. A number of trees that had successfully resisted the attack of the Jeffrey pine beetle were found in the last cruise of the Mammoth check section.

J.M.M.

### WILL THEY ATTACK CONCRETE NEXT?

During this summer Mr. Cary L. Hill, in charge of Forest Products in District 5, sent in a small section of plastering which tained an unusual larval gallery of a cerambycid borer. The plastering, together with a piece of Douglas fir studding, came from a new building at Martinez, Calif. The studding was apparently infested at the time of its installation in the structure. One of the larvae in extending its gallery came in contact with the plastering and cut its way through half an inch of plaster of Paris and sand. Dr. Craighead identified the larva as that of Crioccephalus sp.

FALL CONTROL WORK AGAINST BLACK HILLS BEETLE  
ON COLORADO NATIONAL FOREST

"At present I have seven men cutting insect trees, and plan to place eight more in a day or two on areas where the 1927 trees are showing up to quite an extent. One of these crews is traveling by packhorse and covering inaccessible country north of the area treated last spring. In this respect I might add that the plan of my fall work is to concentrate on the areas surrounding last spring's control area.

"I intend to have 100 to 150 trees in two different localities merely cut, tops trimmed out and left on the ground without peeling. One of these groups will be near the Forks Hotel on Big Thompson and the other will be in Big Elk Park. This will give me two different snow conditions to try out the non-peeling fall control measure. Next spring I hope to see Dr. Craighead and have him examine these trees for effectiveness in eradicating beetles by this measure.

"The new attack appears to be only holding its own from the 1926 attack. That is, we are finding approximately one 1927 kill for each 1926 tree. This is true in particular in the Estes Park District. On Buckhorn Creek, where no control work was done within a distance of ten miles, conditions seem to have been more favorable and the increase this year is about 150 per cent, i.e., 1.5 new tree for each old 1926 tree."

A. L. Nelson.

WESTERN ELDER BEETLE WORKING EAST

So far as known, roundheaded borers of the genus *Desmocerus* live only on various species of elderberry, *Sambucus*. As at present recognized there are six species, five from the Pacific Slope region and one from the Atlantic Slope. *Desmocerus palliatus* Forst, of the East, is reported to live on the native elderberry, *Sambucus canadensis*, from Ontario to Louisiana and westward to Indiana and Kansas. It also attacks the planted coast of British Columbia, Washington, Oregon and California on the red-berried elder, *S. callicarpa*. *D. californicus* Horn occurs along the coast of central California on the blue-berried elder, *S. glauca*; *D. dimorphus* Fisher on *S. glauca* in the Sacramento Valley, and *D. auripennis piperi* Webb occurs in the Blue Mountains of eastern Washington and eastern Oregon on the blackberried elder, *S. melanocarpa*. It has also been reported from Vancouver Island, British Columbia. During the past summer the writer found numerous specimens of this species on the black-berried elder in the vicinity of Many Glaciers Hotel in the eastern part of Glacier National Park. So far as known this is the first record of the occurrence of any of our western species east of the Continental Divide.

## ENGELMANN SPRUCE WEEVIL IN GLACIER PARK

A number of Engelmann spruce saplings with dead or deformed tops were found in July on the west side of the Park at the junction of the Northfork Road and the Howe Lake Trail. An examination indicated that the weevil, Pissodes engelmanni Hopk., is the primary cause of the trouble. Heavy infestations were found under the bark of the dying top. As much as four years' growth had been killed in one year. Well-grown feeding larvae and prepupal larvae in pupal cells were found. Many trees had been attacked time after time, growing a new leader after each successive attack and losing it by the following one. Apparently the only reason why the spruce weevil is not so injurious to the Engelmann spruce as the white pine weevil, Pissodes strobi Peck, is to the eastern white pine, is because the spruce is better able to replace the destroyed leader with a lateral. Very rarely, if ever, does one see a forked-top Engelmann spruce. Growth, however, is retarded, and the total damage is considerable.

## DOUGLAS FIR BROWNEED BY APHIDS

During the spring of 1927, quite extensive browning of Douglas fir foliage occurred along the Madison and the Gallatin Rivers in the western part of Yellowstone National Park and the adjacent Gallatin National Forest. Later, most of the brown foliage fell from the trees and they looked very scraggly and unhealthy. Most of the buds were uninjured, however, and the new foliage came out normally. By the end of August the great majority of the trees appeared in good condition, and it is believed that no permanent injury resulted.

So far as could be determined, the cause of the trouble was the aphid (Chermes cooleyi). June 24, eggs were quite common on the old needles and many young black crawlers were going to the opening buds; most of these crawlers died during the summer.

Engelmann spruce and lodgepole pine which were intermixed with the Douglas fir were uninjured.

## PINE SAWYER DOES NOT KEEP UNION HOURS

Mysterious nocturnal noises disturbed the guests of a new resort near Mammoth on the Inyo National Forest. The source of the disturbance was finally located in the overhead beams, which had been installed as green lodgepole logs with the bark still on. The larvae of the western pine sawyer were industriously mining out a thin layer of the sapwood just under the bark. This species, Monochamus maculosus, extends its galleries by shredding the sapwood instead of cutting it into a granular sawdust. This shredding is accomplished by tearing the wood into tiny strips--a very audible process when a hundred or more larvae are working at peak volume in the same building.

If the logs had been peeled this attack would not have occurred. However, the owner wanted the bark left on, and the borer infestation naturally followed.



## TERMITE PROBLEM BRINGS DR. SNYDER WEST

Dr. T.E. Snyder of the Washington Office of Forest Insect Investigations is spending the months of September and October on the Pacific Coast. Conferences are being held with various state and lumber association officials in regard to the control of termites and other forest product insects. Dr. Snyder will attend the Pacific Coast Building Officials' Conference, to be held at Phoenix, Arizona, October 18 to 21. It is hoped that modifications to prevent termite damage will be made in the existing building codes. Following the conference, Dr. Snyder will proceed to Hawaii to study the termite situation there.

### CURRENT LITERATURE

Boyce, J.S. Losses in Windthrown Timber; The Timberman, August 1927, pp. 178-186.

An account of the conditions found up to 1926 in the timber blown down on the Olympic Peninsula in Washington by the windstorm of January 29, 1921; ambrosia beetles mentioned as one important cause of deterioration.

Fullaway, D.T. Termites or White Ants in Hawaii; The Timberman, July, 1927, pp. 170, 172, 174, 176.

Notes on the life history, destructive work and methods of control of the Hawaiian species.

Langford, Geo. S. The Life History of the Willow Scale; 17th Annual Report for 1925, State Ent. of Colorado, June, 1926, pp. 50-58, figs. 3-6.

Notes on history, food plants, damage, life history, habits and natural enemies; bibliography.

McClure, Elizabeth M. Bees and Fallen Trees; The Timberman, September 1927, pp. 182-184.

Honey bees becoming an important industry on the logged-off lands of northwestern Oregon.

Walsh, Edward J. How We Saved Our Tree from Insects; American Forests and Forest Life, August, 1927, pp. 482, 512.

An account of the apparent saving of a western yellow pine after several attacks of the Black Hills beetle, by injecting carbon bisulphide into the primary galleries of the beetle.

## FOREST ENTOMOLOGIST FLIES FOR FOREST SERVICE

Professor W.J. Chamberlin, Forest Entomologist of the Oregon Agricultural College, spent the summer flying for the U.S. Forest Service in District 6. Professor Chamberlin is a captain in the Reserve Officers' Flying Corps, having received his flying training during the World War. He expects to be on sabbatical leave the coming year, and will probably take work toward a Ph.D. degree at either Stanford or the University of California.

## PINE BARKBEETLE LOSSES HIGH IN 1927

All the reports received to date indicate that the western pine beetle, the mountain pine beetle and the Black Hills beetle have continued their destructive work in the pine forests of the West during 1927. The Black Hills beetle infestation in western yellow pine in the Colorado National Forest and the Rocky Mountain National Park still remains in an epidemic condition. The mountain pine beetle infestation in the lodgepole pine and in the yellow pine in western Montana and northern Idaho is spreading rapidly. Mr. J.C. Evenden, in a letter dated September 26, says: "Through the central part of Idaho, reaching from Montana to Oregon, there is a severe infestation of the mountain pine beetle working in lodgepole pine and yellow pine. I stood on one lookout peak where we could see some 18 townships, and as far as one could see the mountains were red." Similar reports have been received in regard to the western pine beetle infestation in yellow pine in northern California and southern Oregon. Forest insects will make troglodytes out of us yet if we, the People, do not watch out!

## CHANGE OF ADDRESS

The address of the Pacific Slope Laboratory has been changed from Box 3010 to Room 423 Jordan Hall, Stanford University, Calif.